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MANUFACTURER'S INSTRUCTION MANUAL FLOATABLE AND SEDIMENT COLLECTION SYSTEMS

FOR THE

SITESAVER®

	SHESAVEN							
SITESA	VER®-GENERAL NOTES:							
SITESAVER® IS THE BRAND NAME O	F THE STORMWATER TREATMENT TRAIN PROVIDED BY:							
FRESH CREEK TECHNOLOGIES INC. (PHONE 800 741 9486)								
SUBCOMPONENTS ARE:	1) FRESH CREEK NETTING TRASH TRAP							
	2) SITESAVER® INSERT							
	3) FRESHTECH™ FILTER							

4) (OPTIONAL) TELNET® SYSTEM

FRESH CREEK TECHNOLOGIES, INC. 1384 POMPTON AVENUE, SUITE 2 CEDAR GROVE, NEW JERSEY 07009 973-237-9099 (T), 973-237-0744 (F)

Fresh Creek Technologies, Inc. Operation and Maintenance Instructions

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General Introduction about FCT Equipment

The TRASHMASTER™ Netting Capture and TrashTrap® systems, capture and remove floatables from stormwater, CSO or sewer flows using the passive energy of the flow to trap floatables in disposable mesh netting nets. There are six basic models of the modular Fresh Creek Technologies, Inc., netting systems and a range of sizes for each model configured to accommodate one or more nets.

- The In-Line Netting TrashTrap® model is a modular concrete chamber containing the apparatus for holding the disposable nets. The system is installed in-line between the collection system and the outfall.
- The End-of-Pipe Netting TrashTrap[®] is installed at the end of the pipe often within the existing outfall structure without any modification.
- The Floating Netting TrashTrap® is a modular pontoon structure, which floats at the end of the outfall, or inside an open channel/trench.
- The Open Channel Netting TrashTrap® is installed in an open channel or culvert often within the existing structure without any modification.
- The TRASHMASTER™ Netting Capture model is a plastic chamber containing the apparatus for holding the disposable net. The system is installed in-line between the collection system and the outfall.
- The Pump Guard® Netting Capture system is a net or series of nets placed in front of a pump inlet. The system is designed to prevent objects from entering the pump suction.
- The SiteSaver™ Netting TrashTrap® is placed inside the primary chamber of the SiteSaver® and directly receives inflow as shown in the isometric picture. The settling cells below the netting are self cleaning the sediment to the floor for final collection by a vacuum truck.

The TRASHMASTER™ Netting Capture and TrashTrap® systems operate unattended, and thus do not require personnel to be onsite during normal flows or stormwater discharges. The systems have no electrical controls or mechanical devices. They are designed so that no major maintenance is required, with system life expectancy of at least 20 years. Therefore, the equipment only requires routine maintenance, for periodic inspection and replacement of nets, as described herein.

Benefits of the entire line of Fresh Creek netting systems are High Capture Efficiencies - above 95%, (using ½" net openings), Low Installation Cost, and Low Operation and Maintenance Costs. Because the system treatments 100% of the total flow, 100% of the time, the Fresh Creek netting technology is included in US EPA CSO guidance documents. It implements both the "Nine Minimum Controls" and Long Term Control floatables requirements of the US EPA and has been approved for use in New Jersey by the NJ DEP.

Fresh Creek's netting systems, meets and/or exceeds the Full Capture Treatment System requirements identified in the California Regional Water Quality Control Board (RWQCB), Los Angeles Region's Trash Total Maximum Daily Load (TMDL) for the Los Angeles River Watershed. The FCT netting system is the only netting system presently approved by the Los Angeles RWQCB.

SECTION 1

Netting TrashTrap® Systems

Operation and Servicing of the Netting TrashTrap® Systems

General Operations and Maintenance Practices

Review complete Operations and Maintenance Instructions before maintaining the Netting TrashTrap® system. Only responsible persons authorized to do so should maintain the Netting TrashTrap® system.

The Netting TrashTrap® systems are only to be serviced during dry weather conditions when there is little or no flow through the system. Never perform maintenance on the Netting Trash Trap® structure before, during, and immediately after a rainstorm in the general drainage area. The basic servicing of these systems consists of removing the full nets containing the captured floatables, installing a new net, and disposing of the full nets.

NOTES:

- 1. The Netting TrashTrap[®] system should be inspected after each stormwater event, or at least once a month, until a sense about the rate of fill develops.
 - a. If allowed Fresh Creek Technology may request to install the TelNet System® at no cost to the owner and use this system to monitor head-loss across the netting frame during a rain event. We will learn when events occur and get a sense of the net filling rate at the site. This data we will share with the owner to develop insight about trash quantity and netting maintenance. (Note: Historically we have collected this data at wastewater treatment plants where flow conditions are constant versus intermittent flows in storm water infrastructure.)
- 2. Nets, which are damaged, should be replaced. Nets containing only minor quantities of floatables may be retained in place and shall be checked again at the next inspection. FCT recommends replacement when the nets appear to be ½ full.
- 3. Failure to replace nets and/or remove floatables from the bypass screening (if applicable) will lead to hydraulic relief and drain down of floatable that cannot enter this filled netting bag.
- 4. Before removing floatables from bypass screening, see section labeled "Inspection and Maintenance of the Netting TrashTrap® Systems".
- 5. Because of the amount of collected trash, maintenance workers may, if required, , use gaff hooks (supplied by others) to help lift nets to the surface.

Disposal of Full Nets

To date, the materials captured in sewers and storm water outfalls have been treated in all known jurisdictions in the same manner as bar screen tailings from the sewage plant head works.

Some sewer authorities transport this material back to their plant and combine it with the tailings and dispose of it under their existing permits. Transporting this material over the highway also requires permits. Major waste haulers such as BFI, Waste Management, etc. have the required licenses. As part of their service, they take legal responsibility or "ownership" of the material when they pick it up at the customer's site, and indemnify the customer from any subsequent claims.

Please check with state and local laws for disposal/treatment.

General Procedure for Net Removal and Replacement, In-Line Systems

Net Removal

- Position the service vehicle (crane/hoist/boom truck) so that it will safely reach over the unit and a full net can be loaded into a watertight container for hauling to the disposal site. From this point on, the service vehicle/hoist/... will be referred to simply as "the crane".
- 2. Remove the access hatch cover(s) immediately over the nets. This may require the use of hooks or slings and may require the use of a crane.
- 3. Find the loop at the end of the (net) rope. It should be hanging from an eye-bolt somewhere near the access opening.
- 4. Place the loop on the hook of the crane
- 5. Slowly hoist the net¹ up, allowing water in the net to drain as it is raised. It may be necessary to stop several times during this lift, to allow water to drain. Someone should watch this lift and be able to stop it in case of any kind of unexpected entanglement.
- 6. Allow the net to hang in this position until it "drips dry" (usually 1-2 min).
- 7. Completely remove the net from the Netting TrashTrap® and place in a water tight container for disposal
- 8. Once the used net is in the container, remove the (rope) loop from the crane hook.
- 9. Install new net. SEE NET REPLACEMENT BELOW
- 10. Now is a good time to clean the by-pass screens if applicable. FCT has found it useful to purchase or fabricate a long-handled rake to reach in from above and to push debris off the screens down to the floor of the vault. Let the debris pile up in front of the (net) support structure (in front of what will be the "mouth" of the new net). The next rain will push the debris into the new²

¹ The net includes the wooden or plastic rectangular frame to which the netting material is stapled.

² If the sewer <u>always</u> has water in it – clean the screens before removing the old net, or after replacing the net (preferred)

Net Replacement

- New nets come with tie wraps temporarily holding the net material to the plastic frame. This allows them to be handled and installed easily. DO NOT REMOVE THE TIE WRAPS UNTIL THE NEW NET IS JUST ABOUT TO BE INSTALLED. Notes:
 - A. The plastic net frame is <u>tapered</u> from top (widest part) to bottom, and is also tapered from front (towards the sewer) to back.
 - B. The <u>top</u> also contains two (2) 1" diameter through holes AND the net bag is usually rolled and tie wrapped at the top of the frame.
 - C. Silt, stones and other debris may accumulate in the net support frame channel and prevent the new net from being fully inserted. If this is the case, pressure wash and/or scrape all such materials out of the frame channel so that the new net seats fully in the channel when installed.
- 3. Cut the two tie wraps and stretch the "toe" of the net out, away from the plastic frame. It is not critical to have the net laid out flat or straight once it is in position since water flow will cause the net to expand fully.



4. INSERT the OIL SORPTION SOCKS INTO THE NET CAVITY. Position the bottom of the plastic frame (net attached) to fit in between the stainless steel guide rails of the net support. Staples should be in the back (facing down-stream). The net bag should be wrapped around the net frame and pulled through from the front. The nets are shipped this way, but it is possible for a net to fall back out through the frame, to the front, once the tie wraps are undone.



- 5. Lower the net down the guide rails.
- 6. Care to the following details should be exercised:
 - a. Watch the lowering to make sure that there are no unexpected entanglements.
 - b. Be prepared to stop and correct if such entanglements occur.
 - c. Be careful not to let the toe of the net get caught under the frame when it reaches the bottom. This is usually accomplished by holding the toe of the net up until after the net has started to drop into place. Some customers have tied light weight ropes to the toe to make it easier to hold up.



- d. Do not let the loop of the (net) rope drop into the primary chamber vault.
- e. Place the loop of the new (net) rope on the eye-bolt
- 7. Inspect the system for any signs of damage or need for adjustment. For additional information, see section labeled, "Inspection and Maintenance".

- Reinstall the access hatches over the nets and secure the site.
- 9. Complete the inspection and service report, in accordance with local permits. It is good practice to keep records on rainfall events between the replacement of nets and the weight of every removed net, even if no report is required.

Inspection and Maintenance of the Netting TrashTrap® Systems.

The Netting TrashTrap® systems are designed and manufactured for long life and minimum maintenance. When stormwater events occur, these systems are subjected to large hydraulic forces. Under these conditions, foreign materials that enter the collection system could cause damage to the Netting TrashTrap® system. As with any equipment, they therefore require routine inspection of the structural connections and supports to detect any problems or deficiencies.

The Netting TrashTrap® system should be visually inspected as part of the routine net changeout procedure. The system components, structural connections, and supports should be visually inspected for proper alignment and attachment per the contract drawings, specifications, and safety guidelines. Inspect each section of bar screen and remove any debris. Inspect sections of hinged bar screen to insure that each screen is still fastened correctly. Each guide rail, screen, access cover, etc., of the complete system should be visually examined for damage or misalignment. Repair or adjustments should be performed by a qualified maintenance person.

We recommend contacting Fresh Creek Technologies with any questions on repairs or adjustments to the Netting TrashTrap® systems before they are undertaken. Failure to inform FCT of any problems before making changes or adjustments could void the product warranty.

Trained personnel following proper safety practices should do all repairs and adjustments.

When the Netting TrashTrap[®] Collection System structure or components require maintenance beyond the change out of the nets, these procedures should be followed:

- Contact a local weather advisory consultant to verify the potential for a rainstorm event and possible stormwater event, and schedule work accordingly for the maintenance of the Trash Trap Netting Collection System.
- 2. If warranted, for the scope of maintenance work, notify the operator of the sewer plant that work will be performed on a specified Netting TrashTrap® system.
- 3. Wear the proper safety equipment. Avoid loose clothing. Obtain additional safety equipment when your safety may be in doubt. Such equipment may include a hardhat, safety shoes, ear protectors, safety goggles, and sanitary overalls.
- 2. Always wear rubber gloves when performing any maintenance procedure on the Netting TrashTrap® system.

- 3. Have fresh water available and located nearby for washing and emergency procedures.
- 6. Have a first aid kit available. Use proper antiseptics immediately on cuts and scratches to avoid infection.
- 7. If a person falls into the water within the Netting TrashTrap® system area, the person should immediately be brought to the closest maintenance facility for shower, and first aid procedures.
- 8. Have a fire extinguisher located nearby.
- 9. At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for "Confined Space Entry".

General Safety Guidelines for the Netting TrashTrap® Systems

Introduction

The following safety guidelines are for the safe operation and maintenance of the Netting TrashTrap® system. Remember no number of safety guidelines nor can any amount of safety equipment make maintenance of any piece of equipment totally safe unless the maintenance personnel follow the guidelines and use the equipment prudently. An alert, safety-conscious operations or maintenance person is the key to the safe maintenance of any piece of equipment.

General Supervisory Practices

A facility supervisor is directly responsible for the safety of the facility operations and maintenance personnel. A safe supervisor:

- Knows, practices, and enforces all facility safety rules;
- Wears protective equipment when and where it is required for maintenance activities:
- Knows the location and operation of all emergency equipment;
- Maintains and distributes up-to-date safety information on all procedures used in the area:
- Is always on the lookout for unsafe practices to facility operators and maintenance personnel;
- Assumes responsibility for the safety of visitors in the facility and makes sure they are aware of safety rules.
- At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for "Confined Space Entry".

Cleanliness and Service

Keep the Netting Trash Trap[®] system as clean as possible. The process of cleaning will reveal problems or deficiencies with the system.

Before continuing operation of the Netting TrashTrap® system correct or report any structural deficiency that may cause further damage.

<u>Wash</u> <u>hands</u> after any maintenance procedures using an antibacterial soap. Avoid contact with the face and eyes. (Which could be entry points for microbial pathogens)

Ordering Replacement Nets

The net size for the listed site netting chamber, is either of the following ($\frac{1}{4}$ "; $\frac{3}{4}$ "; 1"; 1½") inch mesh material. Frames are identified by width height and nominal net length.

Contact List

For additional information on the Fresh Creek Technologies Netting TrashTrap® systems and questions or technical support on their operation, contact the Company at:

1384 Pompton Avenue, Suite 2 Cedar Grove, NJ 07009 Telephone (973) 237-9099 Fax (973) 237-0744 E-mail: mfarrelly@freshcreek.com

To order additional disposable mesh nets, contact the company at the above address. Delivery time is currently 3-4 weeks after receipt of order.

SECTION 2

SiteSaver® Maintenance Procedures

When a SiteSaver® is installed, frequent inspection is highly recommended. The design of the SiteSaver® permits easy inspection. It is recommended that during the first year after installation, inspections be performed at least quarterly for the purpose of noting the rate of pollutant capture: oil, grease, trash, debris, vegetation and sediment.

Exhibit A lists size and volume information for each SiteSaver® model.

Exhibit B is a form that suggests recording dates and information resulting from the inspections. Maintaining accurate records provides a history of the pollutant accumulation for the SiteSaver®.

Sediment Measurement

To determine sediment accumulation, a tape measure or stadia rod may be used. Cleaning is recommended when the sediment to water level measurements is less than 39 inches. To avoid underestimating the volume of sediment in the chamber it helps to have a broad foot on the end of the measuring rod to sense the soft top of the sediment bed.

Maintenance (flow capacity regeneration) cleaning

The clean-out procedure should occur when it does not rain. Aluminum hatches and/or cast iron frames and covers provide access and closure of the interior space.

The SiteSaver®™ is designed with clear access along both ends of the settler insert. A substantial amount of processed water can be decanted and returned after the sediment bed is removed. This saves disposal cost. A vacuum truck, or similar trailer mounted equipment, can be used to suck the sediment from the floor while an operator uses a spray lance, i.e. a vertical pipe with a 90 degree turn and a spray nozzle. When the lance is connected to the trucks pressure line the operator can spray the sediment towards the suction point on the opposite side. This action can be repeated on both ends until all appears acceptable. Then return the decanted water and close the access openings securely.

Unless local regulations require inspection access and entry into the chamber or if the cleaning company decides to enter the interior space, there is no confined space access procedure necessary to clean the SiteSaver®.

Oil Spill Cleaning:

Exhibit A lists the approximate oil volume that SiteSaver® can intercept if the hydraulic relief weir is not crested. An oil spill response team must immediately withdraw the oil to prevent drainage from the device in the future.

The oil sheen soaker socks are placed in the netting bag for the absorption of gasoline; diesel fuel, lube oil, jet fuel, transformer oils, chlorinated solvents, aromatic solvents, hydraulic oils, and light crude. They are designed to absorb about ¼ of liquid sheen per sock. The number of socks inserted in the netting bag is arbitrary and requires good judgement by the maintenance manager. Typically Fresh Creek recommends (4) ¼ gallon soaker socks per treated CFS.

Disposal of Removed Pollutants

Material removed from the SiteSaver® must be handled according to local, state, and federal regulations.

Cold Weather Concerns

The existence of stormwater collection systems inherently provides feedback on this concern as SiteSaver® typically becomes a complementary part in that system. Therefore if the collection system fails to drain during freezing weather SiteSaver® is equally affected, but no more severe than a structure filled with water buried in soil like a septic tank. To a large degree soil insulates it from freezing temperatures. Winter deicing salts may cause some saltwater stratification since it is denser than fresh water. Colder temperatures reduce the settling velocity of particles, which can result in fewer particles being "trapped". The amount of grit and sand in the runoff from paved areas may be significantly increased in the winter, which may warrant more frequent maintenance.

The SiteSaver® will trap floatable litter and oils that are not emulsified in the stormwater runoff. It is also possible that organic matter decomposes in the sediment bed and cause some off gassing. Keep sparks and open flames away when working around a SiteSaver® unit that may contain flammable material

Fresh Creek Technologies, Inc. 1384 Pompton Avenue, Suite 2 Cedar Grove, NJ 07009 800-741-9486 or 973-237-9099

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Warranty

- 1. Fresh Creek Technologies, Inc. warrants all EquiFlow®, Netting TrashTrap®, TRASHMASTER™ Net Capture System, and SiteSaver™ Managed Discharge System parts and assemblies to be free from defects in material and workmanship for a period of one (1) year after the date of shipment. This warranty does <u>not</u> cover normal wear, failure caused by corrosive applications, failure caused by abrasive materials or physical abuse. All parts and assemblies reported in writing to Fresh Creek Technologies, Inc. as defective in these respects, shall be repaired or replaced (F.O.B. shipping point) without charge, providing that inspection by Fresh Creek Technologies, Inc. shows such defects exist. In all cases involving warranty returns, the transportation charges must be prepaid. In no event shall Fresh Creek Technologies, Inc. assume liability for consequential cost or damage of any kind arising in connection with the use, inability to use, misuse or misapplication of Fresh Creek Technologies, Inc. products.
- 2. The systems supplied by Fresh Creek Technologies, Inc. often contain equipment that is covered by the original manufacturer's warranty and is thus not covered by our warranty. Examples are pumps, instruments, controls, hoists, and electrical power distribution equipment. In these cases, Fresh Creek Technologies, Inc. will pass along the OEM warranty to our customer unless other specific contractual agreement is reached.
- 3. Fresh Creek Technologies, Inc. reserves the right to make all final decisions concerning warranty replacement or repair and all directly related costs.
- 4. It is understood that if any customer fails to comply with the stipulated conditions of operations, maintenance and/or application, or fails to permit Fresh Creek Technologies, Inc. to inspect defects before repairing, or alters the product in any way, this warranty is void and the responsibility of Fresh Creek Technologies, Inc. shall terminate.
- 5. Fresh Creek Technologies, Inc. shall not be held responsible for our products after delivery to a transportation company, however, if there are shortages of equipment or damage, we will, when requested, cooperate fully in obtaining an adjustment.
- 6. No person, agent, or representative is authorized to give any other warranty or make any representation contrary to the foregoing warranty by Fresh Creek Technologies, Inc.

Exhibit A SiteSaver® Model Size and Volume Charts

		SiteSaver ^R	Physical of	dimensions	 3	100% Depth	01:4	01:4	0:1 0-:11	Trash	Cer	tified	4700/			
	Depth dimension is from effluent pipe invert to botton					16.50 Inch	Sediment removal	Sediment removal	capacity	litter	MTFR		476% MTFR	Device	Q/Floor	
		Concrete	Concrete	Concrete	Settling	Sediment	interval in	interval in		debris	in C	FS for	Flow in	MTFR	Area	
	SS	Interior	Interior	Interior	Area	Storage	Months*	Years*	gallons	in Ft ³	Plate	e Cells	CFS	in gpm	gpm/ft ²	
MTFR %	Model	Length	Width	Depth	ft ²	Cubic Feet	WOULTIS	i cais	galions	IIIFt	Q/A=11	.25gpm/sf	Ci 3			
50%	4	96	24	56	20	22	157	13	116	8	0.5	CFS	2.4	225	14.06	
75%	6	96	30	56	30	27	128	11	145	8	0.8	CFS	3.6	338	16.88	
100% Test	8	96	36	56	40	33	117	10	174	8	1.0	CFS	4.8	450	18.75	
138%	11	96	42	56	55	38	98	8	203	8	1.4	CFS	6.6	619	22.10	
163%	13	96	48	56	65	44	96	8	232	8	1.6	CFS	7.8	731	22.85	
200%	16	96	54	56	80	49	87	7	261	8	2.0	CFS	9.6	900	25.00	
225%	18	96	60	56	90	55	87	7	290	8	2.3	CFS	10.7	1013	25.31	

Exhibit B: SiteSaver® Maintenance Chart

Example

	-	- vallible			
Description	Date	9/18/2015			
	f water above nt bed in inches	35			
Pounds collecte	of debris d in the net bag	250			
Pounds dispose	of sediment d	3,300			
Spare Parts	Oil sorption socks	4			
Order	Netting	1			

Notes: 250 lbs. of net debris is approximately 5 cubic feet at a density of 50#/ft³ 3,300 lbs. of wet sediment is approximately 20 cubic feet.